wavelength division multiplexed optical signal, an optical amplification section for amplifying the wavelength division multiplexed optical signal generated by said optical multiplexing section, and a spectral analysis section for analyzing the spectrum of the wavelength division multiplexed optical signal amplified by said optical amplification section, wherein said method comprises:

upon startup of said optical wavelength division multiplexing transmission apparatus, setting initial information including the wavelengths being used and the number of wavelengths being used, setting the amount of optical attenuation corresponding to each wavelength of said optical attenuation section to a maximum value, and setting the operation of said optical amplification section to automatic level control;

upon input to an optical signal of a wavelength corresponding to the wavelengths being used set in said initial information into said optical attenuation section, controlling the amount of optical attenuation corresponding to the wavelength of the optical signal being input into said optical attenuation section so that the power level of the optical signals of each wavelength analyzed by said special analysis section are approximately constant, and moreover so that the optical power lever per single wavelength of the wavelength division multiplexed optical signal input into said optical amplification section is of a level which corresponds with the number of wavelengths being used set in said initial information;

based on the analysis results from said spectral analysis section, controlling the amount of optical attenuation corresponding to the wavelength of the optical signal being input into said optical attenuation section, so that the level conditions adjusted by said controlling the amount of optical attenuation, are maintained; and

upon a variation in the number of wavelengths being input, switching the operation of said optical amplification section from automatic level control to automatic gain control, and controlling the amount of optical attenuation corresponding to the wavelength of the optical signal being input into said optical attenuation section so that the power level of the optical signal of each wavelength analyzed by said spectral analysis section following the wavelength number variation is approximately constant, and moreover so that the optical power level per single wavelength of the wavelength division multiplexed optical signal input into said optical amplification section is of a level which corresponds with the number of wavelengths following variation.

3. (ONCE AMENDED) A method of controlling an optical wavelength division multiplexing transmission apparatus according to claim 1 wherein said switching the operation of

said optical amplification section comprises, upon any reduction in the number of input wavelengths, setting the amount of optical attenuation corresponding to the interrupted wavelengths of said optical attenuation section to a maximum value.

4. (ONCE AMENDED) A method of controlling an optical wavelength division multiplexing transmission apparatus according to claim 1, further comprising, upon occurrence of an anomaly in the analysis operation of said spectral analysis section controlling the amount of optical attenuation corresponding to each wavelength in said optical attenuation section so that the level of the optical signal of each wavelength output from said optical attenuation section is maintained at the output level which existed immediately prior to the occurrence of the anomaly.

5. (ONCE AMENDED) A method of controlling an optical wavelength division multiplexing transmission apparatus according to claim 1, wherein, when the operation of said optical amplification section is switched to either automatic level control or automatic gain control, said method further comprises generating a supervisory control signal, which shows at least the operating conditions of said optical amplification section following switching, and then sending it to the transmission path,

wherein said supervisory control signal is used for switching the operation of optical amplification sections incorporated in subsequent stage devices connected to said transmission path so as to match the operating conditions of the optical amplification section of said wavelength division multiplexing optical transmission apparatus.

6. (ONCE AMENDED) A method of controlling an optical wavelength division multiplexing transmission apparatus according to claim 5, wherein said generating the supervisory control signal utilizes a supervisory control channel of different wavelength from the wavelengths of the optical signals incorporated in said wavelength division multiplexed optical signal, to send said supervisory control signal to the optical transmission path together with said wavelength division multiplexed optical signal.

Please add the following new claim:

8. (NEW) A method of controlling an optical wavelength division multiplexing transmission apparatus having an optical amplification section, comprising: